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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,744	06/30/2003	Quat T. Vu	884.796US2	5516
21186	7590	04/19/2004	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402			TRAN, MAI HUONG C	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 4	Applicant(s)	
	10/612,744	VU ET AL.	
	Examiner Mai-Huong Tran	Art Unit 2818	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/30/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9-11, and 16 are rejected under 35 U. S. C. § 102 (e) as being anticipated by U.S. Patent No. 6,162,661 to Link.

Regarding to claims 9-11 and 16, Link discloses a method of fabricating a microelectronic package, comprising providing a microelectronic package core having a first surface and an opposing second surface, the microelectronic package core having at least one opening 100 defined therein extending from the microelectronic package core first surface to microelectronic package core second surface; disposing at least one microelectronic die 58 within at least one opening, at least one microelectronic die having an active surface; and adhering microelectronic package core to at least one microelectronic die with an encapsulation material (col. 7, lines 1-66, col. 9, lines 36-50, and figs. 1, 5A, 10A).

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12-15, 17-29 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 6,162,661 to Link in view of the remark.

Regarding to claims 12 and 17, Link discloses the claimed invention except for the method further including forming at least one second dielectric material layer disposed over at least one first conductive trace and at least one first dielectric material layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form at least one second dielectric material layer disposed over at least one first conductive trace and at least one first dielectric material layer.

Regarding to claims 13 and 18, Link discloses the claimed invention except for the method further including forming at least one second conductive trace to extend through and reside on at least one second dielectric material layer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form at least one second conductive trace to extend through and reside on at least one second dielectric material layer.

Regarding to claims 14, 19, 23, the method wherein the microelectronic package core comprises providing a microelectronic package core selected from the group consisting of bismaleimide triazine resin based material, an FR4 material, polyimides, ceramics, and metals (col. 1, line 26, col. 4, line 7).

Regarding to claims 15 and 20-22, 24-29, Link discloses a method of fabricating a microelectronic package comprising providing a microelectronic package core having a first surface and an opposing second surface, the microelectronic package core having at least one opening defined therein extending from the microelectronic package core first surface to the microelectronic package core second surface;

Link does not disclose abutting a protective film against the microelectronic package core first surface, wherein an active surface of microelectronic die abuts a portion of the protective film; adhering the microelectronic package core to at least one microelectronic die with an encapsulation material, wherein a portion of the encapsulation material fills a portion of the opening to form at least one encapsulation material surface abutting the protective film; and removing the protective film.

It would have been obvious to abut a protective film against the microelectronic package core first surface, wherein an active surface of microelectronic die abuts a portion of the protective film; adhere the microelectronic package core to at least one microelectronic die with an encapsulation material, wherein a portion of the encapsulation material fills a portion of the opening to form at least one encapsulation material surface abutting the protective film; and remove the protective film.

Conclusion

Any inquiry concerning this communication on earlier communications from the examiner should be directed to Mai-Huong Tran, (571) 272-1796. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM. The examiner's supervisor, David Nelms can be reached on (571) 272-1787.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Mai-Huong Tran


David Nelms
Supervisory Patent Examiner
Technology Center 2800